Abstract of the Disclosure:

Ferroelectric memory cells are produced according to the stack principle. An adhesive layer is formed between a capacitor electrode of a memory capacitor and a conductive plug. An oxygen diffusion barrier is formed above the adhesive layer and once the ferroelectric has been deposited, the adhesive layer and the barrier are subjected to rapid thermal processing (RTP) in an oxygen atmosphere. An oxygen rate of the adhesive layer and the diffusion coefficient of oxygen in the material of the adhesive layer dependent on the temperature are determined. A diffusion coefficient of silicon in the material of the adhesive layer, dependent on the temperature, is determined. A temperature range for the RTP step from the two diffusion coefficients, determined for a predetermined layer thickness and layer width of the adhesive layer and the oxygen diffusion barrier is calculated, therefore, the siliconization of the adhesive layer occurs more rapidly than its oxidation.

REL/kf